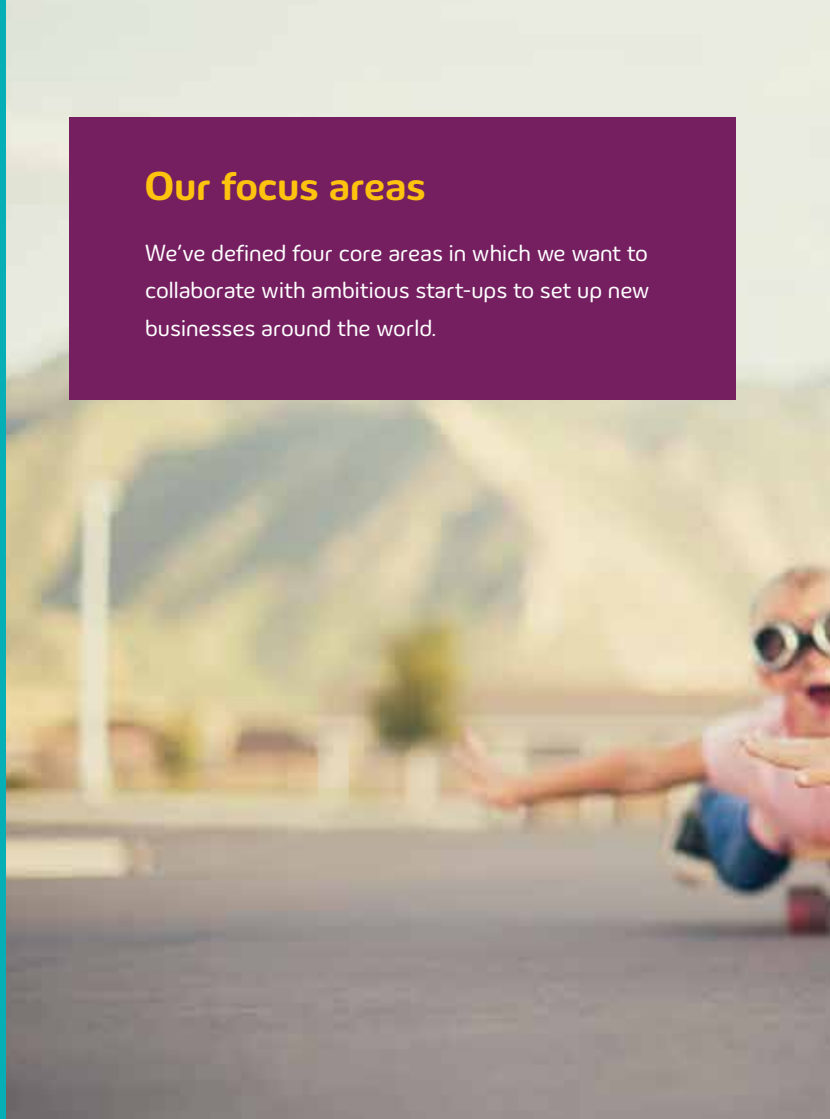


Find out more at  
[innovationhub.innogy.com](https://innovationhub.innogy.com)

**INNO HUB**  
**VATION**  
by innogy

## Our focus areas

We've defined four core areas in which we want to collaborate with ambitious start-ups to set up new businesses around the world.





# INNOHUB VATION

by innogy



innogy

# AGENT.AI

Artificial Intelligence for innogy's customer service

- Customers are used to communicating via popular messaging platforms on their smartphones. innogy now begins a new era, where AI is used to answer customers' questions within seconds.
- Agent.AI uses an algorithm that analyses vast amounts of data, customer preferences and behaviours to provide their "human colleagues" with the right information at the right time
- In the first phase, innogy is implementing the AI-based technology in the Polish retail business.



# AIPOD

A new kind of individual transport

- Transport will look fundamentally different in the future. We envisage a decentralised and sustainable mode of transportation.
- aiPod wants to become a provider of public transportation, in collaboration with cities, to reduce congestion and improve efficiency. This can become an alternative to a typical car, whether in the form of self-driving, car-sharing, or a taxi-ride.
- We see completely new 1-2 person vehicles built around individual transport needs, which will become superior to current 5-seater passenger vehicles (also reducing manufacturing/operational costs and increasing profitability per vehicle)





## ASTRALINK

Preventing construction errors in real time

- The industry faces the problem of high cost of construction errors
  - Rework costs are 7.5 - 12.5% of the construction budget.
  - Rework impacts a project's productivity by up to 300%.
- Astralink's Quality Assurance solution uses Augmented Reality (AR) to help to discover and prevent errors in real-time. Astralink's technology overlays the 3D Model (BIM) on top of the actual construction. This enables construction companies to make more accurate and efficient decisions at the field.
- We see buildings becoming smart "organisms" through increasingly interconnected devices, improved analytical systems and entirely new ways of integrating digital services. As a result, buildings will be able to serve human needs much better in the future.



BASKING

## BASKING

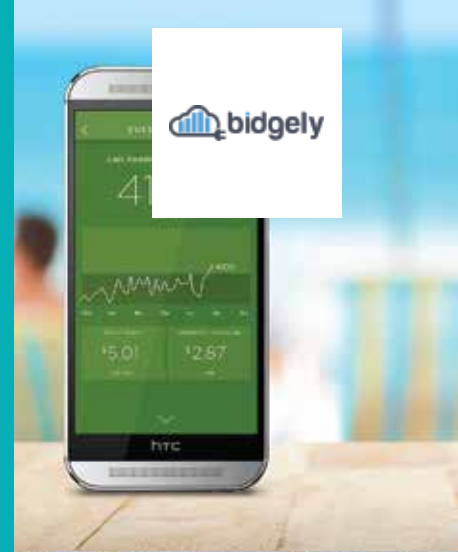
Building an actionable analytics platform for coworking spaces.

- The platform connects your building to the cloud via secure gateways to collect and analyse building data as to identify actionable insights which can help building managers achieve resource efficiency. Their building analytics tools have helped building managers save up to 30% of their energy consumption.
- Basking is building a platform which seamlessly integrates with a large portfolio of IoT solutions, as to provide building analytics services to the fast-growing market of coworking spaces.
- We see the Basking's actionable analytics platform as a clear energy-plus use case. In the future, many buildings will be both consumers and producers of energy. Each building will be a micro power plant. Basking is developing the operating system which those micro plants will run on. Innogy is investing to be a leader in the future of energy.

## BIDGLEY

Reach your customers wherever they are

- Bidgely develops an energy monitoring and management solution for eco-friendly energy saving with the ambition to deliver a technology that has the potential to disrupt the existing energy business.
- Bidgely's universal disaggregation provides up to 100% appliance itemization for every home, making it easy for each consumer to have full transparency on their energy consumption.
- The Bidgely technology is already used as technological base for 'Fresh Energy' and is also tested for various more products within the innogy group.



## BEERIDES

Generate income by renting out unused vehicles at airports

- BeeRides' goal is to help people travel more for less in a comfortable way by reinventing car rentals and car parking at airports and train stations.
- BeeRides has setup an efficient and user-friendly car sharing platform and earns most of its revenue by charging a commission on the rental transactions on its platform.
- We follow the idea that the mobility sector must think about cross impacts between the sharing economy and energy delivery. BeeRides is another example how innogy finds sharing solutions to city transport problems.





**BIGCHAIN**DB

## BIGCHAIN DB

A blockchain database that helps to realize ideas

- BigChainDB has developed a scalable blockchain database that supports a wide range of industries and use cases from identity and intellectual property to supply chains, energy, IoT and financial ecosystems.
- Partners of BigChainDB include large car manufacturers, software companies and the financial sector.
- The innogy Innovation Hub is developing various data driven business models based on Blockchain. For these projects, BigchainDB's database technology is an important element in the software stack to manage the respective large data sets.



**bit.B**

## BIT.B

Digitizing small and medium enterprises

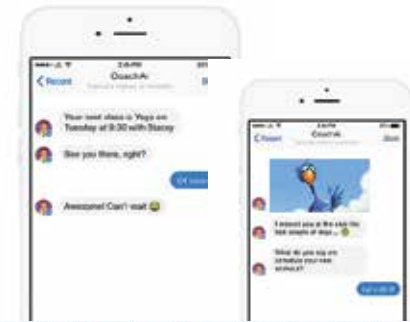
- bit.B is a process and energy monitoring system that enables SME customers to take the step into Industry 4.0
- Sensor-based measurement, visualization and analysis of various data sources in production, environment or energy down to machine level
- Providing the customers with new insights to increase performance and efficiency in their production processes

## COACH.AI

Using Artificial Intelligence to achieve your physical and mental goals

- Everyone wants to be fit and healthy. In the era of the 'Machine Economy' this topic becomes increasingly important and provide the next level of human AI support
- CoachAI uses behavioural psychology and AI to increase motivation for people when they are outside the gym as well as when they are in it.
- CoachAI stays in touch with users and helps them achieve their physical and mental goals, creating lasting behavioural change.

Coach **AI**



## CRYPTOWERK

Blockchain-Powered Solutions for the Energy Market

- The utility industry is facing growing and increasingly distributed demand from energy producers and consumers, along with new regulatory requirements. The changes, from renewable energy resources to p2p transactions and "prosumers" are transforming the centralized utility grid into a highly distributed "Internet of Energy".
- Cryptowerk's Digital Trust Engine makes it easy to integrate existing enterprise applications with any public or private Blockchain, as well as other digital ledger technologies.
- We believe that Blockchain/other distributed ledger technologies, with their ability to verify the authenticity of transactions without a central authority, will be key enablers of a distributed energy economy.

Cryptowerk

**BLOCK CHAIN  
TECHNOLOGY**



## DOOZER

Digitalizing rental property modernization projects and processes

- The company offers a productivity software and contracting platform between the rental property industry and craftsmen for interior modernization.
- By implementing smooth IT-based workflows for the management of a modernization project, DOOZER creates significant efficiency gains and eliminates process steps completely that used to take 2-4 weeks (RFQ, internal approval process, compliance, tracking, budgeting, optimisation and billing).
- The business model is highly scalable and offers a host of expansion opportunities.



## ENERGY WEB FOUNDATION (EWF)

Open-source, scalable blockchain platform

- EWF Blockchain technology has the potential to reduce transaction costs in the energy sector, enable active participation of a larger number of market agents and as a consequence accelerate the transition towards a cleaner, more resilient and more cost effective system.
- To unleash this potential, EWF will
  - identify, document, and assess the most promising applications of blockchain technology in the energy sector and
  - launch a new energy-focused blockchain platform ("Energy Web Platform") that provides the functionalities needed to implement these applications at scale.
- EWF develops a market standard that ensures interoperability, reduces costs and complexity, aligns currently dispersed blockchain initiatives and facilitates technology deployment through easy-to-implement applications and allows innogy as well as other utilities to spearhead the energy transition.



# FRACTAL (<https://trustfractal.com/>)

End-to-End token launch service provider

- With the introduction of ICOs as a new way of venture funding, both investors and governments face a high uncertainty with regards to how these investment vehicles work and what regulations should be put in place to protect the economy and foster digital transformation.
- Fractal ventures is a building block of the decentralized sharing economy. Its launchpad is supporting digital businesses to successfully deploy token launches with ease in a compliant environment, whilst creating a strong database of potential accredited investors (with KYC and AML checks). In the future, Fractal will leverage this database for new products such as tokenized assets.
- We believe that in the future of the 'Machine Economy' everything will be tokenized and interoperable; Humans and Machines will hold fractions of ownership claims to e.g. a building, decentralized network, solar plant – and Fractal can facilitate a legal and safe transition to this tokenized economy.

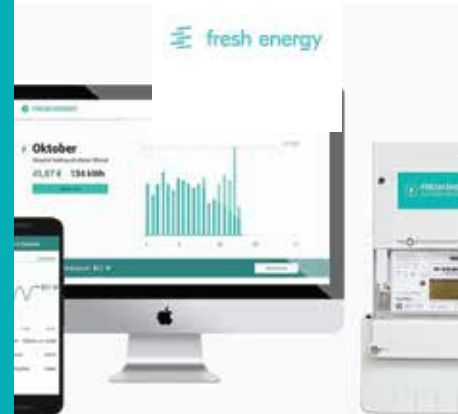


# FRESH ENERGY

Advance payments are outdated - total transparency is here

More transparency of energy consumption and billing

- Fresh offers customers an energy contract with a new, purely digital experience, superior services and at competitive prices
- Monthly billing, includes; automatically adjusted down-paymen and bill protection
- An increased understanding of your energy through, appliance level insights, understanding why consumption changed and analysing standby loads, as well as notifications when devices are switched on at home
- All of this – at €0 extra cost for the customer



# gridX



## GRIDX

Holistic, digital and decentral energy provider

- Energy markets are becoming renewable, decentral and digital while at the same time more and more customers are turning into prosumers i.e. producers of power
- gridX provides a holistic, state-of-the-art, home energy management and steering solution to optimize local consumption vs. production, boost customer experience and to enable a real decentral energy system. gridX offers a one-stop customer B2C product but also white-label solutions to B2B clients
- The gridX technology fully supports innogy's vision of a decentral and renewable energy world. gridX technology is perfectly suited to be employed in energy+ retail offerings but can also enable smart grid services.



## GRÜNDERFONDS RUHR

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- We see buildings becoming smart "organisms" through increasingly interconnected devices, improved analytical systems and entirely new ways of integrating digital services. As a result, buildings will be able to serve human needs much better in the future.

# HELIA TEK

Ultra light, thin and flexible photovoltaic

- Heliatek is a leading producer of organic photovoltaic, which is characterized by being ultra thin (< 1mm), ultra light (< 500g/m<sup>2</sup>), flexible and without toxic or rare materials
- Heliatek offers two products to the market: HeliFilm for building integrated PV installations and HeliSol for building attached PV installations
- As preferred partner of Heliatek, innogy broadens it's energy+ portfolio with HeliSol as innovative PV technology for roof and façade installations on buildings, where conventional PV is not applicable due to technical restrictions (e.g. weight restrictions)



# HOLO LIGHT

Merging real & digital world to transform the future of work

- Holo-Light, with its headquarters in Munich, Germany, pushes the industry 4.0 revolution forward, creating customized Mixed-Reality software solutions for training, quality control, and service & maintenance.
- Holo-Light's software products, which can be applied without any programming skills, help industry leaders to optimize processes and productivity, reduce cycle times and increase overall service quality.
- We see 'Mixed Reality' as one technology solution that enables new ways of communication to speed up processes and make knowledge transfer easier. There are several use cases possible for the energy industry – like the power plant environment or renewable energy production – where critical information such as switching systems and machine data can be displayed in augmented reality.





## HOPON

Seamless Mobility and Big Data Solutions

- Ticketing for Public and Shared Transportation – passengers just hop on and off the bus or train – payment is automatic and invisible.
- With Hopon’s proven m-ticketing platform, passengers enjoy hassle-free travel across urban networks while operators improve their efficiency and collect passenger movement data.
- innogy’s presence in municipal governments and connections with public transport companies makes innogy a natural partner for Hopon to support B2B contacts to such customers.



## INSIDER NAVIGATION

A perfect solution for indoor navigation

- Insider Navigation, with its head quarters in Vienna, Austria, offers augmented reality based indoor navigation creating benefits for visitors, tenants and operators without the use of additional hardware.
- Insider Navigation assists visitors like a personal indoor assistant with recommendations, navigation, up-to-date information and much more. It empowers tenants by offering new possibilities for marketing campaigns and mobile services.
- We believe that Augmented Reality enables new ways of communication, providing opportunities to accelerate work processes, facilitate knowledge transfer and reduce costs. These are topics of great importance to global energy markets.

# INTERTRUST

Your trusted partner in digital rights management

- Silicon Valley based software company specializing in trusted distributed computing like digital rights management (DRM)
- Intertrust's suite of trusted computing products can help their customers better manage and understand the value of data. From digital certificate management to software application protection, Intertrust works to ensure that today's information is traded securely.
- Intertrust has developed a general purpose DRM platform that serves as a foundation for providers of digital information, technology, and commerce services to participate in a global system for digital commerce.



# KEEWI

"Crowd-Sourcing" Energy Savings from Building Occupants

- Keewi, with its headquarters in Sunnyvale, USA, offers a cloud-based IoT solution allowing building managers to optimize energy consumption holistically and to "crowd-source" energy savings from building occupants.
- While AC/heating/light have all been optimized previously, Keewi provides transparency on plug devices – addressing the last frontier of energy management and the only category with increasing energy consumption in today's buildings.
- Keewi addresses the need for more "intelligence" in the grid, by turning entire buildings into manageable assets on the grid.





## LEMONBEAT

First E2ESaaS™ - an IoT operating software for smooth end-to-end solutions from device to cloud

- Businesses face many technical decision problems when developing a new IoT product often leaving no time, to rather focus on the value added for its customers.
- Lemonbeat's solution serves as a glue to connect the dots and cover core technology decision issues helping businesses to focus on customer value added, allowing for rapid prototyping and mass market rollout.
- With its IoT solution Software, Connectivity, Gateway and Cloud, Lemonbeat offers an integrated platform and focuses on key verticals such as: Smart Energy, Smart Building, Smart Home, Smart Industry.
- Lemonbeat was founded through a RWE / innogy spin-off in 2016 to leverage its core technology in relevant markets. innogy remains to be a customer.



## LIBRYO

Simplifying legal research

- Libryo is a web-based, context specific tool that enables users at any organization to know the applicable legal obligations they face in any situation.
- Libryo offers a solution for non-legally trained users as well as lawyers, helping alleviate and simplify legal research and enabling them to focus on adding premium value to their clients.
- With customers in over 50 countries, Libryo supports innogy's vision for radical innovation, as well as offering solutions that go beyond their current needs and expectations, in particular business customers with multiple sites and/or an international presence.

# MOJ.IO

The Leading Open Platform for Connected Cars

- Vehicles are getting more and more interconnected, electric and autonomous. Moj.io provides the technological backbone for this rapidly growing connected car industry
- Moj.io offers a completely scalable and hardware agnostic connected cars B2B solution to enable a connected car service launch
- innogy aspires to become a significant player in the e-mobility and smart city space. Moj.io could provide the needed data and missing technology link between present/ future cars and smart charging infrastructure or urban services



# MOTIONWERK

Open and secure infrastructure for mobility business

- MotionWerk collaboratively develops a strong B2B-network based on green and shared electricity and digital technology.
- Helping our partners and customers to share their assets on blockchain basis in the totally changing market of mobility and creating a decentralised mobility network.
- Coming from mobility (Share&Charge) MotionWerk offers the opportunity to step into the whole market of mobility. Innogy is a leader of innovation in the fields of emobility and in this regard highly interested in future

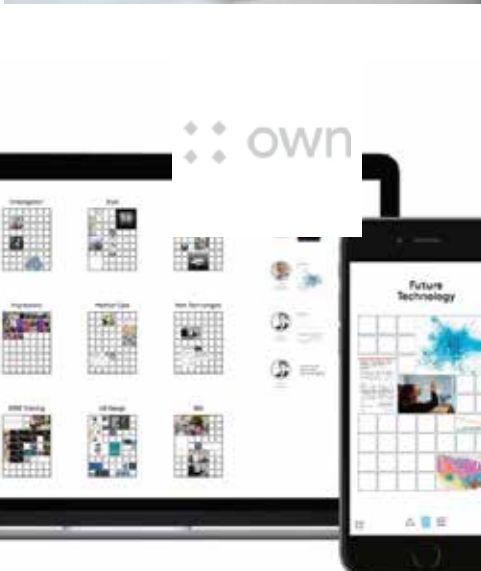




## NEUFUND

Equity fundraising on Blockchain

- Neufund is bridging the off-chain world to the on-chain world by opening private equity to everyone while providing a fully legal and regulated setting for token investment and trading.
- Neufund offers a community-owned platform that aims to revolutionise the fundraising mechanism. Through the use of blockchain technology and smart contracts, start-ups can tokenise their equity on the Neufund platform and become publicly tradable. Investors get a share of the platform while investing in the start-ups on the platform.
- The Neufund platform allows innogy to directly realise potential gains by acquiring shares of interesting tech ventures.



## OWN.SPACE

AI as coach and co-worker

- Rather than simply replacing humans in the workplace, machine intelligence can share the daily workload. The technology has the potential to empower knowledge workers to focus on the important aspects of their jobs.
- Own.space is a visual collaboration platform where humans form teams with artificial agents that are programmed to solve specific tasks and answer questions.
- innogy is looking for sustainable solutions in the area of AI that foster a mutually beneficial co-existence of humans and machines.



## PATRONUS.IO

Fully automated 24/7 website protection

- Active websites are constantly changing products of different elements with short life cycles and sensitive data. This constantly changes their threat surface.
- Continuous monitoring of all relevant components is key for a thorough security level, but most companies are overwhelmed by the challenges of web security
- Patronus.io developed a fully automated solution that tests websites for vulnerabilities and scans the source code for backdoors and malware. It conducts a penetration test at frequent intervals and enables businesses to comply with the high technical security standards required by GDPR.
- We see cyber security as fundamentally important for building up the decentralised and digitized future energy system - providing security at the most important digital interface between companies and customers.



## PEOPLE POWER

Bringing IoT closer to the people

- People Power develops and provides cloud-based software solutions for IoT services, e.g. in the smart home sector.
- People Power have developed an app called "presence" that allows users to turn unused mobile devices into wireless surveillance cameras
- They also offer a series of cloud-based software platforms that allow developers to design their own energy management and/or security systems





## PLANET OS

Making geodata usable for energy companies

- Planet OS provides big data infrastructure to help renewable energy companies transform the way data is used in their organizations.
- Focused on geodata, the company offers solutions in data discovery, data access and decision support systems
- By analysing operational data and combining it with third-party datasets, Planet OS can transform customer data assets into actionable insights that make renewable energy more competitive.



## PLAUSE

It's time for work to work better

- Plause is transforming work to focus on people as the most important resource – by helping organizations unlock employee potential and enabling everyone to feel heard and valued at work.
- Plause is an app that combines communications and insights about work. The communications app helps people share how they feel about work in a safe and social environment.
- Thee data is aggregated into big metrics and insights about people, teams and the whole organization.

## QMERIT

Distributed workforce management and procurement solution

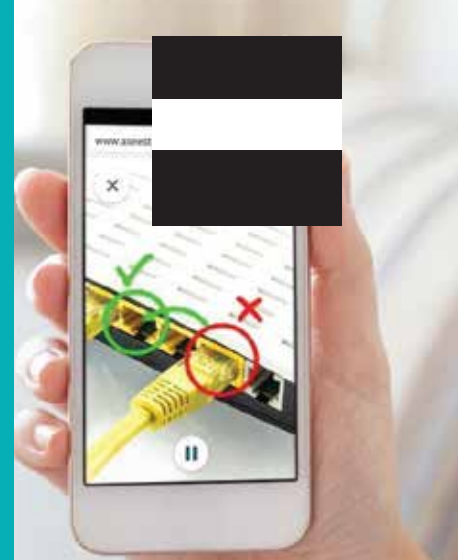
- Qmerit's workforce management platform transforms the way companies vet, onboard, manage and objectively measure their external contractors and internal workforce.
- Qmerit's procurement platform substantially reduces material acquisition costs through the industry's first solution that aggregates the purchasing spend of contractors, building owners, and property managers.
- Their solution for the installation of EV charging stations has immediate applicability for the future EV charging business, especially in the US market



## REMOTY (prev. ASEEST)

Empowering people to help each other solve their technical challenges remotely

- Enabling tech-savvy experts from all around the world to offer contextual, visual assistance
- Guiding users step-by-step from problem identification to solution
- The service makes use of the smartphone camera and augmented reality tools to enable anyone to connect and get help: remotely, quickly, simply and cost effectively.





 SCANTRUST

## SCANTRUST

Secure IoT platform for product authentication and supply chain visibility

- By connecting “passive” products to the internet using secure unique identifiers, ScanTrust provides brand owners with an integrated software platform to enable secure, large-scale product authentication and real-time supply chain traceability that is simple and cost-effective
- ScanTrust’s innovative mobile and cloud-based solution is built around its technology of the world’s first patented secure, copy-proof QR code
- We believe in the vision of a future system of energy, mobility and human-machine-interaction: in this regard we develop various data driven business models based on Blockchain. For these projects ScanTrust provides a solution that allows to connect any “dumb” physical good with the digital world.



 shine

## SHINE

People powering people

- Shine, with its headquarters in Berlin, Germany, creates the future of people powering people. Shine’s innovative software enables customers to actively take part in the undeniable journey towards de-central energy production and consumption.
- Shine advises its customers where to best source local energy from, informs when and how it makes sense to produce own energy and optimizes all the energy flows in the house to reach maximum benefit.
- We see the decentralisation and digitisation as the corner points for the future energy system: Shine’s vision to create a world of millions of connected energy producing and consuming houses, highly contributes to this.

## SOLIDIFIED

Decentralized full-audit service for smart contract code (on the Ethereum blockchain)

- When the code written in Solidity (programming language of Ethereum) governs cryptocurrencies or fiat currencies worth billions of USD, smart contract security is absolutely crucial
- Multiple recent hacks have shown that privately organized code audits are not enough to detect major bugs. (e.g. the DAO hack \$50 Million)
- Solidified is a decentralized, transparent incentivization platform, which operates as a marketplace for smart contract audits with independent blockchain experts and the developer community as well as quality certification
- Solidified fills the open spot for blockchain security and fits perfectly into our Machine Economy strategy, covering the security layer of the "Hierarchy of Machine Needs"



## TECHSEE

An intelligent visual customer support solution

- TechSee provides a leading technology for visual customer support services combined with augmented reality, supported by artificial intelligence.
- The TechSee technology has valuable impact for large corporations managing call centers in industries such as telecommunication, consumer electronics and cable TV.
- innogy envisages to deploy TechSee's technology to improve customer support services as well as to increase efficiency for technical support functions, e.g. in the grid business





## TRACKS

Brand independent Platoon Services

- Overland logistic companies are suffering low margins of 3-4%. With platooning the profit can rise around 20% and additionally it lowers CO2 output with 10%
- Tracks enables adhoc platooning by lowering search costs and sharing the cost savings between the participants in the platoon.
- innogy hardly works on lowering CO2 emission over all industries. The investment in tracks can contribute significantly to this mission. Furthermore Tracks can function as a spearhead for innogy towards a future of electrified trucking and logistics.



## T-REX

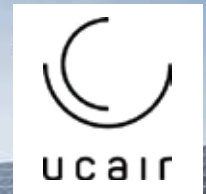
Enable liquidity across financial markets

- T-REX addresses challenges in the finance industry and combines technology, renewables and finance expertise to facilitate investing in complex structured asset classes.
- T-REX offers tools to fixed income professionals to adequately assess risks in complex markets with a focus on structured and project finance.
- The product and services complement the data driven business model initiative and links to the need of financing large scale renewable projects in on- and offshore wind as well as solar PV.

# UCAIR

Drones inspecting photovoltaics

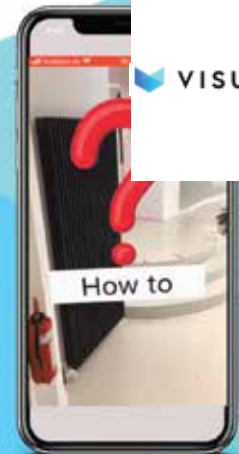
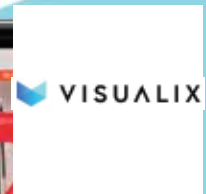
- ucair brings together PV energy producers with drone pilots equipped with thermographic cameras and PV experts who can use the drone data to produce detailed inspection reports, using ucair's high quality reporting standard.
- By aggregating information from different customers, ucair can also offer performance comparisons and will eventually be able to predict future maintenance needs for any given installation.



# VISUALIX

Computer Vision based AR and 3D Mapping

- On-line, information is abundant and freely available. Off-line, the world is static and analogue.
- Visualix is building a computer vision software which will make on-line information accessible and searchable in the real world.
- Visualix Augmented Reality application is very useful for the retail market, because there is a high concentration of goods on a small space. An expansion to other verticals is planned.





## WAYCARE

SAI-driven mobility solution for smart cities

- Cities rely primarily on their own infrastructure to manage their traffic systems, with reactive incident response systems.
- WayCare's platform is designed to provide traffic management centres with proactive recommendations – allowing faster responses or taking actions before incidents occur.
- WayCare's AI-based platform uses a myriad of data sources from vehicles, weather, video cameras and road sensors to help municipalities proactively manage their roads.



## WE ARE

Making collaboration easier

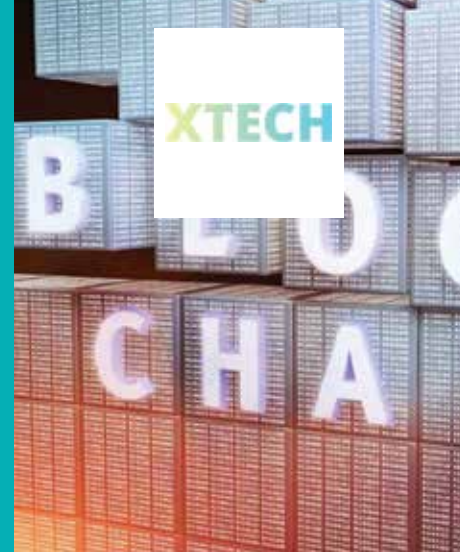
- A Virtual Reality collaboration platform that supports businesses' employees to improve productivity and reduce travel costs.
- Team members in different locations work together in their virtual office by using a VR glass and controllers (comparable to virtual whiteboard sessions).



# XTECH

Trusted payment on the blockchain

- XTech operates a new kind of payment and transaction platform that facilitates the seamless value transfer between two parties.
- The underlying blockchain technology guarantees the security and validity of every transaction.
- XTech's technology provides a gateway from traditional currencies to cryptocurrencies which can be accepted by machines and transferred in micro transactions.



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